



180/1732

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Patent Application of

Charles Falinower

Application No.: 10/506,567

Filed: August 12, 2005

For: DEVICE FOR DRYING AND/OR
CALCINING GYPSUM

)
)
) Group Art Unit:

)
) Examiner:

)
) Confirmation No.: 1322
)
)
)

REQUEST FOR CORRECTED OFFICIAL FILING RECEIPT

Commissioner for Patents
Office of Initial Patent Examination
Customer Service Center
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Enclosed is a copy of the Official Filing Receipt marked in red to show correction that is needed. The correction is as follows:

Please change the Attorney Docket No. from "015291-156" to --034296-023--, and please change the title from "DEVICE FOR DRYING AND/OR FIRING GYPSUM" to - -DEVICE FOR DRYING AND/OR CALCINING GYPSUM- -.

Issuance of a corrected Official Filing Receipt is respectfully requested.

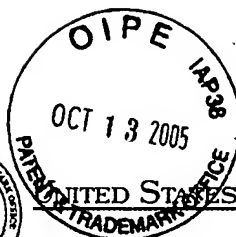
Respectfully submitted,

BUCHANAN INGERSOLL PC

Date: October 13, 2005

By: *William C. Rowland* Reg. No. 32,858
William C. Rowland
for Registration No. 30,888

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APPL NO.	FILING OR 371 (c) DATE	ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLMS	IND CLMS
10/506,567	08/12/2005	1732	1636	045294-150 034296-023	2	43	5

CONFIRMATION NO. 1322

21839

BUCHANAN INGERSOLL PC
 (INCLUDING BURNS, DOANE, SWECKER & MATHIS)
 POST OFFICE BOX 1404
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FILING RECEIPT



OC000000017100717

Date Mailed: 09/28/2005

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please mail to the Commissioner for Patents P.O. Box 1450 Alexandria Va 22313-1450. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

Applicant(s)

Charles Falinower, Carpentras, FRANCE;

Assignment For Published Patent Application

LAFARGE PLATRES, Avignon Cedex, FRANCE

Power of Attorney: The patent practitioners associated with Customer Number 21839.

Domestic Priority data as claimed by applicant

This application is a 371 of PCT/FR03/00692 03/04/2003

034296-023

WCR

Foreign Applications

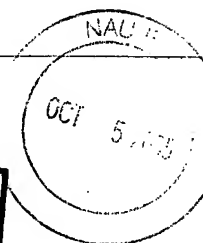
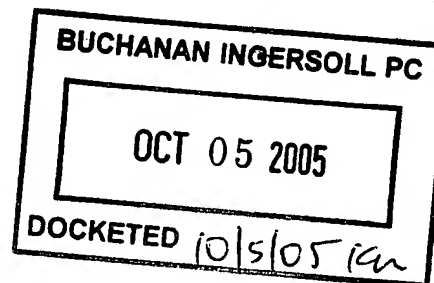
FRANCE 02/02955 03/08/2002

Projected Publication Date: 01/05/2006

Non-Publication Request: No

Early Publication Request: No

Title



calcining
Device for drying and/or firing gypsum

Preliminary Class

264

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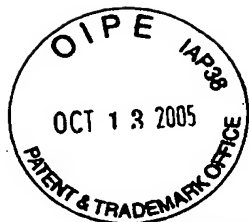
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of)	Group Art Unit: Unassigned
Chrles FALINÖWER)	Examiner: Unassigned
Application No.: Unassigned)	Confirmation No.: Unassigned
Filed: September 3, 2004)	
For: DEVICE FOR DRYING AND/OR)	
CALCINING GYPSUM)	

PRELIMINARY AMENDMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Prior to examination of the above-captioned patent application, kindly amend the application as follows.

AMENDMENTS TO THE SPECIFICATION:

Please replace the title with the following amended title:

"DEVICE FOR DRYING AND/OR FIRING CALCINING GYPSUM"

Please add on a new line the following at page 1, line 2:

BACKGROUND OF THE INVENTION

Please add on a new line the following at page 2, line 8:

OBJECTS AND SUMMARY

Please add on a new line the following at page 5, line 21:

BRIEF DESCRIPTION OF THE DRAWINGS

Please add on a new line the following at page 5, line 31:

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Please replace the Abstract with the following amended Abstract:

ABSTRACT

~~The invention relates to a~~ A gypsum dryer/calciner (1) ~~comprising~~ includes a calcining space (2), a first pipe (4) exhibiting an inlet connected to a source of hot gases (3) and an outlet emerging in the calcining space (2); a second pipe (5) exhibiting an inlet connected to a source of gypsum (8) and an outlet emerging in the calcining space, the second pipe being concentric with the first pipe; a force-feeding screw (6) positioned at least partially in the second pipe, the said screw carrying the gypsum along in the calcining space. ~~The invention also relates to a~~ A process for calcining gypsum and to the plaster capable of being obtained by this process.

~~Figure 4~~

ABSTRACT

A gypsum dryer/calciner (1) includes a calcining space (2), a first pipe (4) exhibiting an inlet connected to a source of hot gases (3) and an outlet emerging in the calcining space (2); a second pipe (5) exhibiting an inlet connected to a source of gypsum (8) and an outlet emerging in the calcining space, the second pipe being concentric with the first pipe; a force-feeding screw (6) positioned at least partially in the second pipe, the said screw carrying the gypsum along in the calcining space. A process for calcining gypsum and to the plaster capable of being obtained by this process.

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claims 1-38 (Canceled)

39. (New) Process for the calcining of gypsum, comprising the stages of:

- (i) supplying hot gases to the inlet of a first pipe;
- (ii) supplying gypsum to the inlet of a second pipe concentric with the first pipe;
- (iii) carrying the gypsum along in the second pipe via a force-feeding screw;
- (iv) indirect heat exchange between the gypsum and the hot gases; and
- (v) calcining the gypsum to plaster.

40. (New) Process according to Claim 39, wherein the gypsum is gypsum from flue gas desulphurization or natural gypsum or a mixture thereof.

41. (New) Process according to Claim 39, wherein the stages (iii) of carrying the gypsum along and (iv) of indirect heat exchange comprise drying of the gypsum.

42. (New) Process according to Claim 39, wherein the stages (iii) of carrying the gypsum along and (iv) of indirect heat exchange comprise drying and at least partially the calcining (v) of the gypsum to plaster.

43. (New) Process according to Claim 39, wherein the calcining (v) comprises bringing the gypsum into contact with the hot gases, the calcining being of the flash type.

44. (New) Process according to Claim 39, wherein the time between bringing the gypsum into contact and its complete calcining is less than 10 sec.

45. (New) Process according to Claim 39, wherein the calcining (v) comprises bringing the gypsum into contact with the hot gases, the calcining being carried out in a fluidized bed.

46. (New) Process according to Claim 39, wherein the calcining stage comprises transportation of the gypsum from the outlet of the second pipe by entrainment by hot gases.

47. (New) Process according to Claim 39, wherein the residence time of the gypsum or plaster or a mixture thereof in the second pipe is between 30 seconds and 5 minutes.

48. (New) Process according to Claim 39, wherein the stage of indirect heat exchange between the gypsum and the hot gases comprises the calcining stage.

49. (New) Process according to Claim 39, wherein the stages (iii) of carrying the gypsum along and (iv) of indirect heat exchange comprise the drying and at least partially the calcining (v) of the gypsum to plaster, the calcining (v) being completed by bringing the gypsum into contact with the hot gases, the completed calcining being of the flash type, the duration of the stages (iii) and (iv) being between 30 seconds and 5 minutes and the duration of the calcining by contact with the hot gases being between 1 and 10 seconds.

50. (New) Process according to Claim 49, the duration of the stages (iii) and (iv) being between 1 and 2 minutes and the duration of the calcining by contact with the hot gases being between 2 and 5 seconds.

51. (New) Process according to Claim 49, additionally comprising a stage (iiib) of milling the gypsum during the stage (iii) of carrying along.

52. (New) Process for the calcining of gypsum, comprising the stages of:

- (i) supplying hot gases to the inlet of a first pipe;
- (ii) supplying gypsum to the inlet of a second pipe concentric with the first pipe;
- (iii) carrying the gypsum along in the second pipe via a force-feeding screw;
- (iv) indirect heat exchange between the gypsum and the hot gases; and
- (v) calcining the gypsum to plaster, by bringing the gypsum into contact with the hot gases, the calcining being of the flash type.

53. (New) Process according to Claim 52, wherein the time between bringing the gypsum into contact and its complete calcining is less than 10 sec.

54. (New) Process for the calcining of gypsum, comprising the stages of:

- (i) supplying hot gases to the inlet of a first pipe;
- (ii) supplying gypsum to the inlet of a second pipe concentric with the first pipe;
- (iii) carrying the gypsum along in the second pipe via a force-feeding screw;
- (iv) indirect heat exchange between the gypsum and the hot gases; and
- (v) calcining the gypsum to plaster;

wherein the stages (iii) of carrying the gypsum along and (iv) of indirect heat exchange comprise the drying and at least partially the calcining (v) of the gypsum to plaster, the calcining (v) being completed by bringing the gypsum into contact with the hot gases, the completed calcining being of the flash type, the duration of the stages (iii) and (iv) being between 30 seconds and 5 minutes and the duration of the calcining by contact with the hot gases being between 1 and 10 seconds.

55. (New) Process according to Claim 54, the duration of the stages (iii) and (iv) being between 1 and 2 minutes and the duration of the calcining by contact with the hot gases being between 2 and 5 seconds.

56. (New) Gypsum dryer/calclner comprising:

- a calcining space;
- a first pipe exhibiting an inlet connected to a source of hot gases and an outlet emerging in the calcining space;
- a second pipe exhibiting an inlet connected to a source of gypsum and an outlet emerging in the calcining space, the second pipe being concentric with the first pipe;
- a force-feeding screw positioned at least partially in the second pipe, the said screw carrying the gypsum along in the calcining space.

57. (New) Dryer/calclner according to Claim 56, wherein the second pipe surrounds the first pipe over a portion of its length.

58. (New) Dryer/calclner according to Claim 56, wherein the second pipe surrounds the first pipe over substantially its length.

59. (New) Dryer/calclner according to Claim 56, wherein the calcining space corresponds to a receptacle at least partially surrounding the first pipe and the second pipe.

60. (New) Dryer/calclner according to Claim 59, wherein the calcining space is divided up between the inside of the second pipe and the receptacle.

61. (New) Dryer/calclner according to Claim 56, wherein the calcining space is at least partially coincident with the inside of the second pipe.

62. (New) Dryer/calcliner according to Claim 61, wherein the calcining space is coincident with the inside of the second pipe.

63. (New) Dryer/calcliner according to Claim 56, wherein the first pipe is emplaced so as to rotate with respect to the second pipe and drives the force-feeding screw integral with it.

64. (New) Dryer/calcliner according to Claim 56, wherein the pitch of the screw varies along the length of the screw.

65. (New) Dryer/calcliner according to Claim 56, wherein the screw exhibits a stirrer positioned at the end of the screw.

66. (New) Dryer/calcliner according to Claim 65, wherein the force-feeding screw is guided in rotation by at least two centring arms integral with the stirrer.

67. (New) Dryer/calcliner according to Claim 65, wherein the stirrer is equipped with a deflector facing the outlet of the first pipe.

68. (New) Dryer/calcliner according to Claim 65, wherein the stirrer exhibits a shaft positioned at its end.

69. (New) Dryer/calcliner according to Claim 65, wherein the stirrer is guided in rotation by bearings integral with the receptacle.

70. (New) Dryer/calcliner according to Claim 56, wherein the first and second pipes are vertical.

71. (New) Dryer/calculiner according to Claim 56, wherein the inlet of the second pipe exhibits a conical shape corresponding at least partially to the force-feeding screw.

72. (New) Dryer/calculiner according to Claim 56, wherein the second pipe has a shape and structure appropriate for milling.

73. (New) Dryer/calculiner according to Claim 56, wherein the force-feeding screw has a shape and structure appropriate for milling.

74. (New) Plaster, the characteristics of which are as follows:

(i) reactivity:

(a) knife initial set less than 6 minutes; or

(b) Gillmore setting between 4.5 and 6 min; or

(c) Vicat final set between 10 and 12 min; and

(ii) plaster/water ratio at saturation of at least 140 parts of plaster per 100 parts of water; and

(iii) fluidity as determined by a spreading value of greater than 205 mm.

75. (New) Plaster according to Claim 74, the characteristics of which are as follows:

(i) reactivity: knife initial set less than 5 minutes; and

(ii) plaster/water ratio at saturation of at least 140 parts of plaster per 100 parts of water; and

(iii) fluidity as determined by a spreading value of greater than 240 mm.

76. (New) Plaster according to Claim 74, the BET surface area of which is at least 8 m²/g.

77. (New) Plaster according to Claim 74, which does not split in water.

78. (New) Plaster according to Claim 74, which is devoid of gypsum and/or of chlorinated adjuvant.

79. (New) Plaster according to Claim 74, wherein the knife initial set is less than 5 minutes.

80. (New) Plaster according to Claim 74, wherein the reactivity is:

- (a) knife initial set less than 6 minutes;
- (b) Gillmore setting between 4.5 and 6 min; and
- (c) Vicat final set between 10 and 12 min.

81. (New) Plaster according to Claim 74, wherein the fluidity is greater than 240 mm.

REMARKS

By way of the foregoing amendments, the specification has been amended to incorporate the title headings, and to amend the Abstract. The claims have been amended, Claims 1-38 have been canceled and new Claims 39-81 have been added. Also, the title has been amended to conform to the English language translation. No new matter has been introduced by these changes.

It is requested that the application be examined on the basis of the specification, Abstract, title and the claims as amended.

Early and favorable consideration with respect to this application is respectfully requested.

Should any questions arise in connection with this application, the undersigned respectfully requests that he be contacted at the number indicated below.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

Date: September 3, 2004

By: William C. Rowland
William C. Rowland
Registration No. 30,888

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10/506567

Applicant/

Inventor: Charles Falinower

Docket No.: 015291-156

Working Atty.: William C. Rowland / rsc

Appln. No.:

Date: September 3, 2004

Title: DEVICE FOR DRYING AND/OR CALCINING GYPSUM

DT03 Rec'd PCT/PTO 03 SEP 2004

Dkt. Clerk Initials



The following was/were received in the U.S. Patent and Trademark Office on the date stamped hereon:

☐ Transmittal Letter to the U.S. Receiving Office/ Response to Invitation (PTO-1382)

☒ Transmittal Letter to U.S. Designated/Elected Office (DO/EQ/US) Concerning Filing Under 35 USC 371 (PTO-1390)

☐ PCT Request (PCT/RO/101) () pgs.

INCLUDING:

☒ Specification (pages 1 - 16)

☒ Claims (claims(s) 1 - 38 , 5 pgs.)

☒ Drawings (Fig(s). 1 - 2 , 2 pgs.)

☒ Abstract of the Disclosure

☐ PCT Fee Calculation Sheet Annex to the Request (PCT/RO/101 (Annex))

☐ PCT Demand (PCT/IPEA/401) International Preliminary Examination Report

☐ PCT Fee Calculation Sheet Annex to Demand for Int'l. Preliminary Exam. (PCT/IPEA/401 (Annex))

☐ PCT Notice of Confirmation of Precautionary Designations (PCT/RO/144)

☐ Executed Declaration/Power of Attorney

☐ Unexecuted Declaration/Power of Attorney

☐ Assignment/Assignment Recordation Form Cover Sheet (PTO-1595)

☐ Appointment of Agent

☒ Preliminary Amendment

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☒ Information Disclosure Citation (PTO-1449)

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☐ Diskette

☐ Check for \$ _____ is enclosed

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☒ Application Data Sheet

☒ General Authorization For Petitions For Extensions of Time and Payment of Fees

☒ WO 03/076356 A1

☒ PCT/ISA/210

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Applicant/

Inventor: Charles Falinower

Docket No.: 015291-156

Working Atty.: William C. Rowland / rsc

Appln. No.:

Date: September 3, 2004

Title: DEVICE FOR DRYING AND/OR CALCINING GYPSUM

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